

**ROBUST NP-BASED DATA FORWARDING TECHNIQUES THAT TOLERATE
FAILURE OF CONTROL-BASED APPLICATIONS**

ABSTRACT OF THE DISCLOSURE

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In a network environment including one or more network processing (NP) devices implementing for communicating packets, each NP device supporting a forwarding table comprising entries to enable forwarding of received data packets from a source device to a destination device according to a routing protocol via a network connection, the

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network device routing receiving updated forwarding table entries from one or more network control devices executing routing protocol applications, a system and method for updating forwarding table entries comprises: generating for each forwarding table entry update, a data structure indicating identification of the routing protocol application and a version of a particular routing protocol application instance generating the entry update,

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the data structure received by the forwarding table and incorporated within a respective forwarding table entry; identifying for deletion forwarding table entries having data structures matching a designated selection criteria; and, deleting the designated forwarding table entries. By doing this old forwarding table entries in the forwarding table are updated efficiently without disrupting packet forwarding process.

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